DRAFT OPEN HOUSE LAYOUT AND POSTERS

February 8, 2016

HPNS Community Meeting

Layout and Poster Stations

Greeters (Roamers)

- Derek/Lily/Tamsen
- Chinese, Spanish, Samoan, Tagalog Translators

Handouts and Media Sign-In/Press Packets

- Bill/Liz/David

Poster 1: What is RAD

- Matt/Reggie

Poster 2: RAD Sources on HPNS (multiple laptops)

- Zach/Amy B

Presentation and FAQs

- Pat/Jamie

Poster 3: RAD Data Review and Path Forward

- Scott/Nina

Poster 4: Protecting the Public and Community Technical Liaison

- Dr. Kathryn Higley

Poster 5: Living and Working at HPNS

- Danielle/Asha/Jackie

Comment Cards/Mailing List/Bus Tour Sign-ups

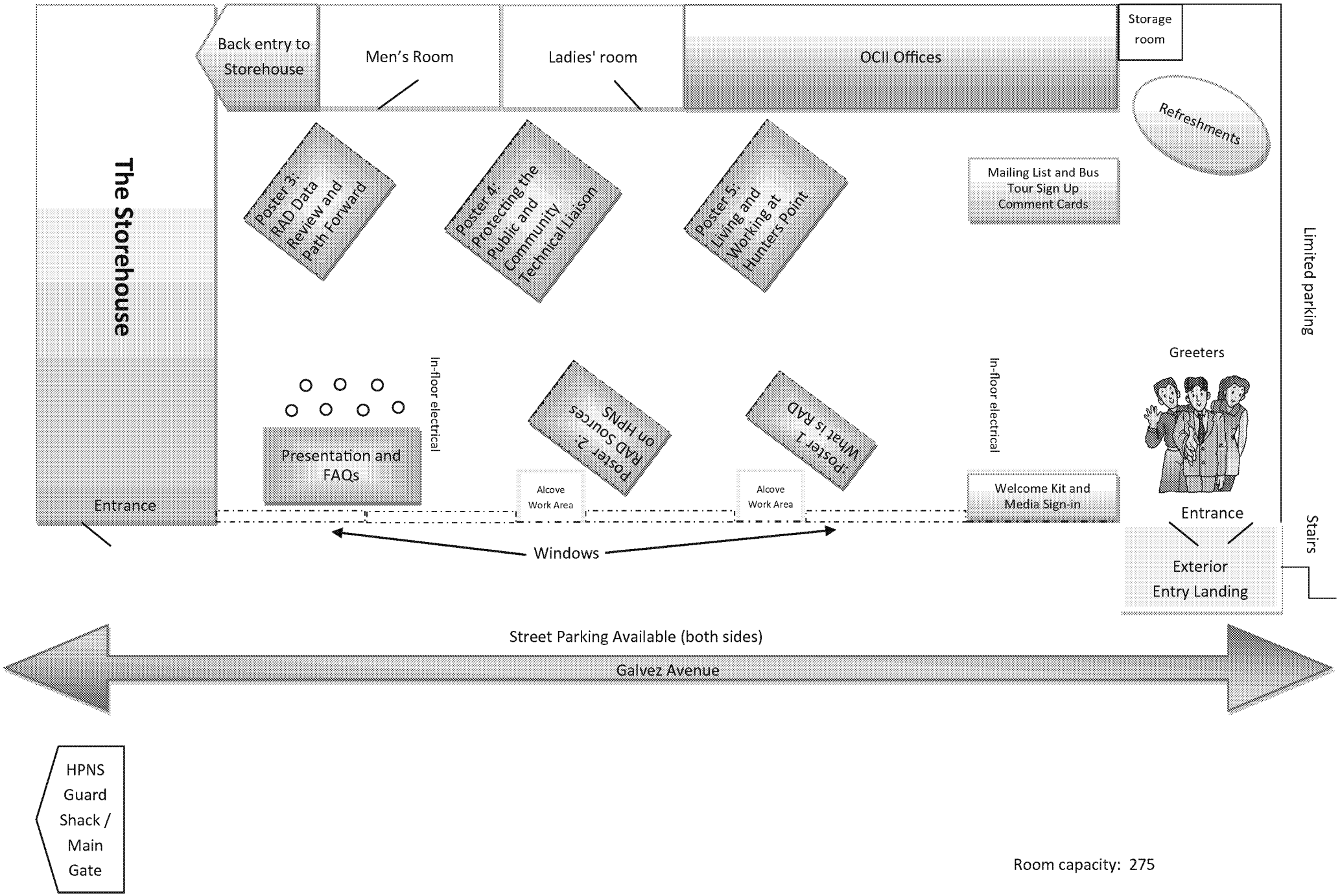
- Yolanda and team/Dr. Covello

Refreshments

Unconfirmed Attendees

- Tina Lowe, Kim Ostrowski, Rory O'Conner, Coop Slater

Approximate Layout of OCII Conference Room
The Storehouse, 451 Galvez Avenue, San Francisco, CA 94124



Room capacity: 275

HPNS

Hunters Point Naval Shipyard

Department of the Navy
Base Realignment and Closure (BRAC)

Understanding Radiation

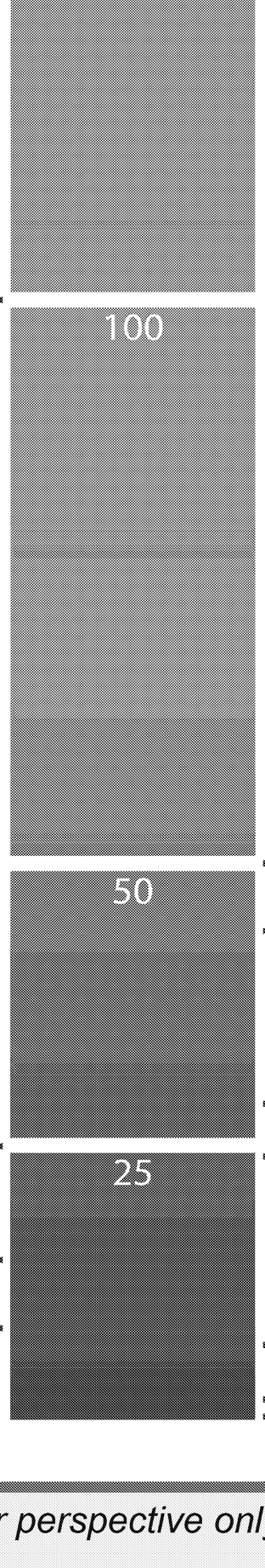
What is radiation?

- Radiation is energy given off by atoms
- You cannot see, smell, or taste radiation
- Everyone is exposed to radiation every day from natural and man-made sources (like medical X-rays or smoke detectors)

Rem is a standard measure of radiation. The millirem (mrem), which is 1/1000 of a rem, is used to measure common exposure, such as those on the right.

People in the United States receive an average of 624 millirems (mrem) of radiation per year from man-made and natural background radiation sources (NCRP 160).

Radiation is naturally present all around us.
It can be found in naturally-occurring soil and rock formations; in certain foods that we eat; and in some man-made sources.

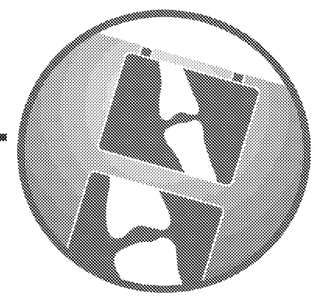


NRC Standard for Public Health
100 mrem (annual)*

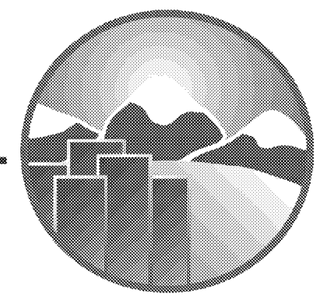
NRC standard for cleanup sites
25 mrem (annual)*

EPA standard for cleanup sites
15 mrem (annual)*

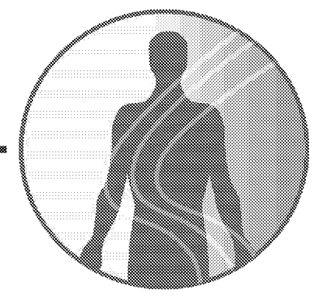
Navy and CDPH Action Level for further analysis
10 mrem (annual)*



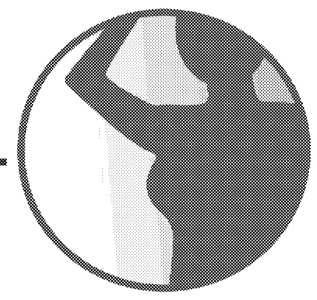
Diagnostic radiology
50 mrem (annual)



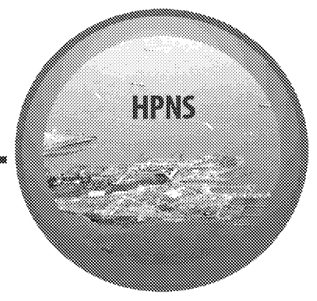
Normal cosmic radiation in Denver
50 mrem (annual)



Natural radioactivity in the body
40 mrem (annual)



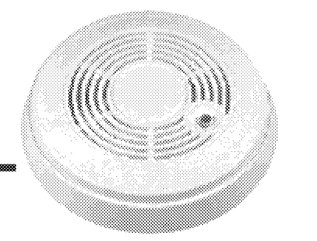
Mammogram
30 mrem (single procedure)



Normal cosmic radiation at Hunters Point Naval Shipyard
24 mrem (annual)

Building Materials
7 mrem (annual)

Round trip flight from LA to NYC
3.7 mrem (per trip)



Smoke detector
<.001 mrem (annual)

www.ncrponline.org/Publications/Press_Rele
www.epa.gov/radiation/docs/cleanup/rad_arar.pdf, isis-d
www.epa.gov/radtown and i

*Indicates dose level above background

Sources of radiological exposure are referenced for perspective only and do not address acceptability of risk.

HPNS

Hunters Point Naval Shipyard

Department of the Navy
Base Realignment and Closure (BRAC)

Radiation Sources and Locations

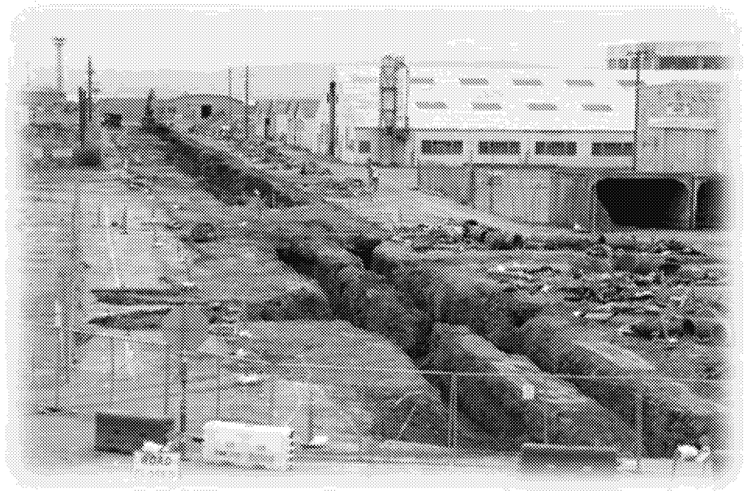
Hunters Point Naval Shipyard (HPNS) provided critical ship maintenance to the Pacific Fleet during both World War I and World War II. Services included ship repair, maintenance, decontamination, and disposal of low-level radioactive equipment, which included items like radioluminescent (glow-in-the-dark) deck markers, dials or paint, and gauges.

The Naval Radiological Defense Laboratory (NRDL) conducted research at HPNS on the effects of radiation from 1948 to 1969. The NRDL's mission was to study the potential hazards of radiation and develop the means of preventing or minimizing its harmful effects.

Historical Sources of Radiation

- Radium was added to cause items to glow in the dark and accounts for more than 99% of the radiological contamination found at HPNS
- Strontium and cesium were contaminants removed from ships used in atomic weapons tests and also used by NRDL in research at HPNS
- Strontium and radium were used in radioluminescent deck markers that glow in the dark

Concrete, soil, and sediment at HPNS have been tested for radiation



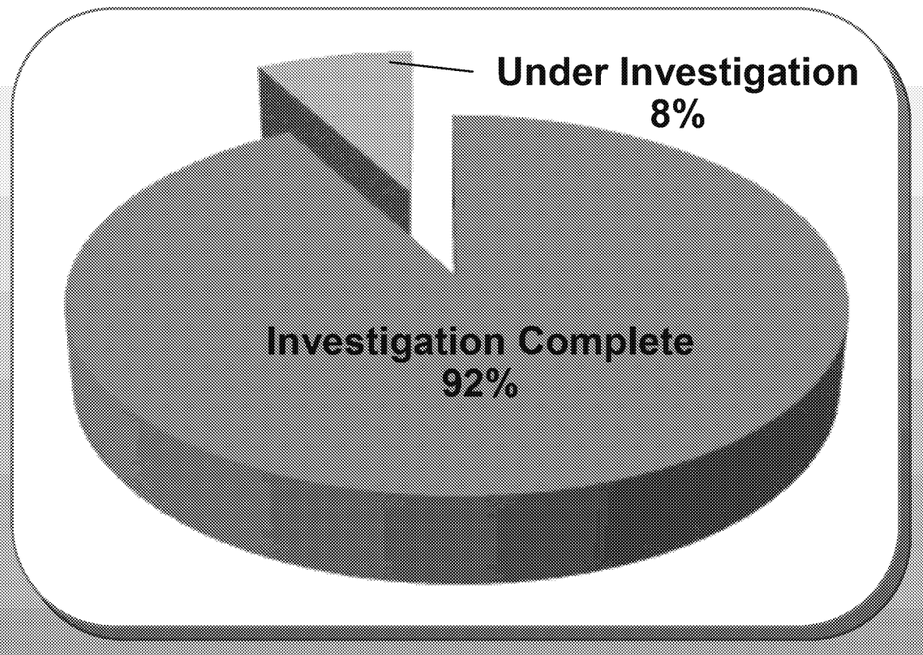
Sanitary sewer and storm drain pipelines and trenches have been investigated for radiation

Buildings have been scanned for radiation

A **Historical Radiological Assessment (HRA)** was issued in 2004 and provides a thorough evaluation of historical radiological operations and activities at HPNS. The HRA identified 91 sites/areas with potential radiological contamination.

Some of the largest areas identified as being impacted with radiological materials include:

- Buildings associated with the NRDL activities or buildings associated with radium paint application
- Sanitary sewer and storm drain lines
- Former disposal or burial areas
- Piers or ship berths used after radiological testing



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Base Realignment and Closure (BRAC)

Radiological Data Review

Background on Radiological Data Review at HPNS

In 2012, as a part of its regular review of contractor data, the Navy discovered that one of its radiological soil sampling contractors, Tetra Tech EC, had misrepresented some radiological soil samples. Tetra Tech EC reported that that soil samples were taken within an area under investigation at HPNS, when the samples were actually collected from a different location known to have been unaffected by Navy activities.

Upon this discovery, the Nuclear Regulatory Commission (NRC) and the California Department of Public Health (CDPH) were notified and the Navy began an internal investigation, including collection of new sample data from areas in question, and implementation of initial corrective actions. No soil was removed from the site during the initial corrective actions.

Navy Takes Extensive Action

Samples and Data Thoroughly Reviewed

- ♦ Reviewed more than 70,000 sample results
- ♦ Resampled more than 130 building and land areas with on-site independent supervision
- ♦ Completed additional soil excavations to clean up areas where falsified samples were taken
- ♦ Performed new radiological surveys were with on-site independent supervision

2-Phase Radiological Data Analysis Underway

Phase I: Gather Existing Data and Identify Potential Areas of Concern

- √ Develop database of available soil data
- √ Confirm accuracy of radiological data
- √ Identify questionable results which require further analysis
- √ Identify gaps in data for Phase II evaluation

Phase II: Determine Priorities for New Field Sampling and Conduct Sampling

- √ Analyze unusual data identified in Phase I
- √ Identify additional requirements to determine where new samples may need to be taken
- √ Design sampling plan and conduct sampling
- √ Analyze new data and compare to results from existing data analyses

Additional Claims Under Investigation

After initial investigations by the Navy and the NRC (pre-2016), former workers at HPNS made claims about Tetra Tech EC activities. The Navy is conducting a thorough investigation into all of the radiological data issues, as well as any additional claims made regarding Tetra Tech EC's radiological samples. All of the results will be made available to the public when the investigation is complete.

Navy Confirms Accuracy of Radiological Data

Soil samples in question will be researched to ensure the integrity of each sample taken

New soil samples will be taken with on-site independent supervision

Additional cleanup, including additional soil removal, will occur to ensure areas are free of radiological contamination, if necessary

Buildings will be scanned for potential radiological contamination with on-site independent supervision

Health Check™

Public safety is the highest priority to the Navy. Testing indicates that levels of radiation meet all regulatory health standards for exposure. According to San Francisco City officials, "there is no health risk for current residents and employees in the area".

(SF Examiner, October 4, 2016, sfexaminer.com)

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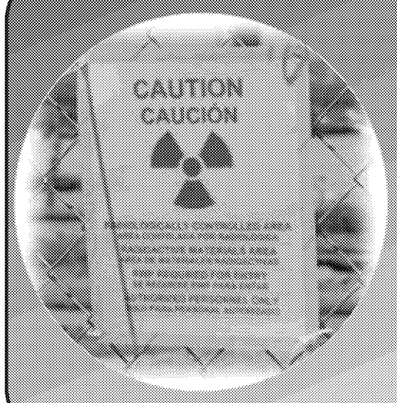
Department of the Navy
Base Realignment and Closure (BRAC)

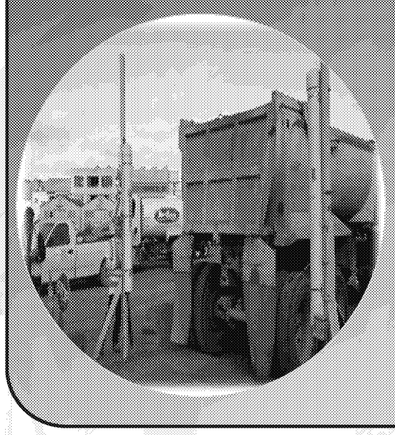
Protecting the Public

The Navy has several on-site controls and procedures in place at Hunters Point Naval Shipyard (HPNS) to ensure public safety.



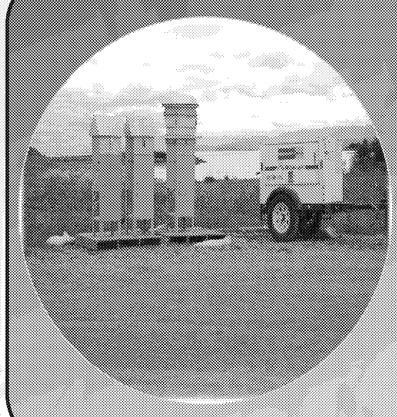
Establish Radiologically Controlled Areas

Public access to all work areas is restricted and only specially trained personnel are permitted to access radiological controlled work areas



Use a Portal Monitor to Screen Trucks for Radiation

Trucks entering and leaving HPNS must pass through a portal monitor that screens for radiation



Conduct Air Monitoring

The Navy monitors for both particulates and radiological contamination with on-site air monitors

Implement the Dust Control Measures

Dust is controlled to contain contamination within the restricted areas

Comprehensive Evaluation

The Navy follows a carefully designed plan at HPNS that ensures timely and effective cleanup, with public safety as a priority.
In addition to oversight by the US Nuclear Regulatory Commission and the US Environmental Protection Agency, the California Department of Public Health collects its own confirmation samples from radiological cleanup sites for independent verification.

Multiple agencies participate in the radiological investigations and remediation at HPNS.

United States Navy
Naval Facilities
Engineering Command
Base Realignment
and Closure (BRAC)

United States Navy
Naval Sea Systems Command
Radiological Affairs Support Office
(RASO)

United States Environmental Protection Agency (USEPA)

United States Nuclear Regulatory Commission (USNRC)

California Department of Public Health (CDPH)

California Department of Toxic Substances Control (DTSC)

Oregon State

RAD Health Effects Placeholder

Dr. Higley

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Base Realignment and Closure (BRAC)

Living and Working at Hunters Point

Celebrating The Shipyard's History

The Hunters Point Naval Shipyard, or HPNS, is located on 934 acres of waterfront in the southeast corner of San Francisco.

HPNS has an important role in U.S. military history

Beginning at the end of WWI through the mid-1970s, the Navy conducted ship repair and maintenance of Naval vessels at the shipyard dry docks. In addition to these activities, a portion of HPNS was used by the Naval Radiological Defense Laboratory (NRDL) to decontaminate ships exposed to atomic weapons testing and conduct research on the effects of radiation from 1948 to 1969. At various points in its history, the shipyard was also used by private companies for ship repair and maintenance.

Aircraft carriers in dry dock at HPNS, 1971

Cleaning Up The Shipyard for a Bright Future

In 1988, the base entered the Base Realignment and Closure (BRAC) Program, a federal program created to oversee the cleanup and transfer of military installations to public or private entities for redevelopment.

Investigations found contamination from historical activities

In 1989, the United States Environmental Protection Agency (USEPA) evaluated HPNS and placed it on the National Priorities List in response to concerns about the effects of past hazardous wastes created by historical shipyard activities by both the Navy and private companies.

Cleanup at HPNS continues today

The Navy is continuing its extensive investigation of contaminated areas of the base and cleaning up the land and groundwater where contamination is found, including radiological contamination. The Navy's cleanup program is tailored to meet the City of San Francisco's current Redevelopment Plan to ensure that people who live, work, and relax at The Shipyard are safe.

Safety of the community is a priority

Throughout the cleanup process, the Navy, along with state and federal regulatory agencies, have worked together to prioritize efforts to ensure that the community is protected.

The San Francisco Shipyard Today: Residents, Artists, and Visitors Enjoy Bayside Life

The Navy and regulatory agencies confirm that current and former Navy property occupied by residents, artists, and visitors is safe.

Images of The San Francisco Shipyard at Parcel A
www.sfshipyard.com

No contamination found on Parcel A

The first portion of the base that was transferred, referred to as Parcel A, was used by the Navy as offices and housing areas.

It is safe to live at The San Francisco Shipyard

The Navy's investigations showed that no cleanup was required in this area, and Parcel A was transferred for redevelopment in 2004. With regard, to the radiological data investigations, the areas that are currently occupied by residents are not included in the data falsification investigations.

New homes provide a bright future for bayside living

Since the transfer of Parcel A, townhomes and condominiums have been built on the property, offering owners and residents new living space that marks a bright new future for The Shipyard.

Existing buildings cleared for safety

Several existing buildings on the Shipyard have been investigated and approved as safe work spaces. In addition to evaluating for possible contamination, each building was tested to make sure that it is structurally safe. The areas that are currently occupied by artists and frequented by visitors are not included in the data falsification investigations.

It is safe to work in approved buildings

More than 250 artists have studios in buildings on HPNS, making it the largest group of independent studios in the United States. Led by the Shipyard Trust for the Arts (STAR) for over twenty years, tens of thousands of people have visited artists' open studios events at HPNS.

Advancing the arts at HPNS

These artists studios create a place for working artists within the shipyard that will benefit future generations of artists, as well as the general public.

Images from Hunters Point Artists Open Studios events at HPNS
www.shipyardtrust.org

Health Check™

Public safety is the highest priority to the Navy.
Testing indicates that levels of radiation at HPNS meet all regulatory health standards for exposure.
There is no risk to residents, visitors, or workers.